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P R E F A C E.

THE Print prefixed to this Volume represents the Front of the Society's House in the Adelphi Buildings, London, according to the original design: some little deviations were found necessary in finishing the Building; but it has been judged most proper to lay before the Public a correct elevation, as first intended; which will give to posterity some idea of the style adopted by the ingenious Architect, Robert Adam, Esq. to whom the Society are obliged for the Drawing from which this Print was taken.

The perusal of the Papers which form this Volume will, it is hoped, afford much

pleasure to the Public at large, and to the Members of the Society in particular, when it is observed how much Agriculture, and the other useful Arts, are advancing in this country; and when the List of Rewards bestowed is attended to, it may be said, without vanity, to be under the auspices and encouragement of this Society.

In the class of Agriculture, the large plantations of useful Timber-trees making in most parts of the kingdom, must afford great pleasure to every reader: and the various other matters that will be found under this head will shew that the practical farmers in this country are attending to a line of science in their profession, unknown in former times, and from which the happiest effects may be predicted. This is evident in the Papers on the Cause and Cure of the Disease called the Curl in Potatoes—the experiments on feeding Cattle with that useful and prolific root—and from the observations on Stall-feeding Horses, a practice

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tice which promises to be of very considerable utility.

Under this head will also be found some Papers on the Culture and Cure of that useful drug, Rhubarb ; from which it will appear that this country may soon be supplied with Rhubarb of our own growth, equal, and perhaps superior, to any imported. The Papers on gaining Land from the Sea, and on the management of Bees, it is believed, will prove very acceptable to the readers.

In the class of Chemistry is inserted an account of a simple, plain, and effectual method, verified by trial before a Committee, of a method of Generating Yeast ; by which the inconveniences attending the want of that necessary ingredient in brewing and baking may be in a very great degree obviated ; a circumstance of no small importance to those families who reside much in the country, particularly when at a distance from public breweries.

The Silk received this year in claim of the premium for that article is a sufficient proof, if any further proofs were necessary, that what has been published in the Volumes of these Transactions concerning the practicability of producing, in this country, that great article of manufacture and trade, is well founded ; and from the sample sent by the Candidate (part of which is reserved for the inspection of the curious), there now seem only wanting sufficient plantations of mulberry-trees for feeding the worms, whereby employment for numbers of women and children may be furnished, and Silk produced in England equal to that of any part of Europe. This opinion will be more fully confirmed, when it is generally known that the Government of Prussia is at this time busily employed in raising Silkworms in that country, where the climate cannot be considered as more fit for the purpose than that of the land we inhabit.

In the class of Manufactures, an account and plate of a Loom, of a simple construction,

tion, are inferted ; which, on examination, appeared well calculated to weave advantageously light works in Silk.

A Letter on a more minute and accurate manner of dividing Mathematical Instruments ; a mode of preventing those accidents that often happen in raising large weights ; an account of the successful use of the Gun-Harpoon ; a method of drawing water from Ponds, without disturbing the mud ; and a description and plate of an improved Hydrometer for Spirits and Worts ; are contained under the head of Mechanicks. These are so fully described in the following sheets, that little need be here said of them, except that the method of drawing water by means of a machine, on the principle communicated by Colonel Dansey, has been applied to a cistern with considerable advantage ; and it is evident how eligible such a contrivance is, whereby the water, for the service of houses, may be taken from near the surface of the cistern,

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rather than from near the bottom, as is usually practised.

An accurate *practical* Instrument, whereby the strength of Spirits may be easily and expeditiously determined, has long been wanted; and it is hoped such an one is now found in that contrived by Mr. Quin.

Under the class of Colonies and Trade, it must be highly satisfactory to find that the Cinnamon-trees taken on board the St. Ann, a French vessel, bound from the Isle of France to Port Louis, by the Flora frigate, Captain Samuel Marshall, one of the ships belonging to the fleet commanded by Lord Rodney in 1782, are now flourishing in Jamaica, and promising in time to furnish a valuable article of commerce to these Kingdoms.

Under this head it may be proper to observe, that the Society have received this year, from Jamaica, a quantity of Cashew
Gum

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Gum, sent in claim of the premium offered for that article, and for which the premium was adjudged to the Candidate, Dr. Titford. This kind of Gum was found on trial not to answer the purpose of Gum Senegal in callico-printing ; but, as it will supply the place of that Gum to the black-filk dyers, who consume large quantities, and will thereby lessen the price of Gum Senegal to the manufacturers in general, the Legislature, in consequence of this information, have thought proper by law to enact, that the importation of Cashew Gum shall be allowed on the same conditions as Gum Arabic or Gum Senegal; the duty on which, from the place of growth, is only sixpence per hundred weight.

The annual publication of these Volumes of Transactions appears to have had the effect desired, by diffusing a knowledge of the intention and views of the Society ; and the number of Candidates who have appeared in claim of the rewards offered, which

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which has been much greater during the last session than for several years past, with the increase of Members elected, must be attributed to the Public being more fully informed of the patriotic views of the Institution.

In the List of Premiums now offered, several new ones will be found; which, it is hoped, will stimulate the ingenious to bring forward such improvements as may do credit to themselves, and promote, in the most essential manner, the Arts, the Manufactures, and the Commerce of these Kingdoms.

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